Amendments to the Specification:

Please replace the paragraph on page 1, after the title and the heading CROSS-REFERENCE TO RELATED APPLICATIONS, with the following amended paragraph:

This application is a continuation of U.S. Application No. 09/629,335, filed August 1, 2000, now U.S. Patent No. 6,645,645, ~~and~~ which claims the benefit of ~~priority to~~ U.S. Provisional Application No. 60/207,330, filed May 30, 2000. In addition, the present application is a continuation-in-part of U.S. Patent Application No. 09/883,734, filed June 18, 2001, which is a continuation-in-part of U.S. Patent Application Nos. 09/452,346, filed December 1, 1999, now abandoned, and 09/311,126, filed May 13, 1999, now abandoned.

Please add the following new paragraphs on page 1 after the title and the section entitled CROSS-REFERENCE TO RELATED APPLICATIONS:

GOVERNMENT RIGHTS

This invention was made with Government support under Contract No. F33615-94-1-1414 awarded by DARPA. The Government has certain rights in this invention.

RESEARCH AGREEMENTS

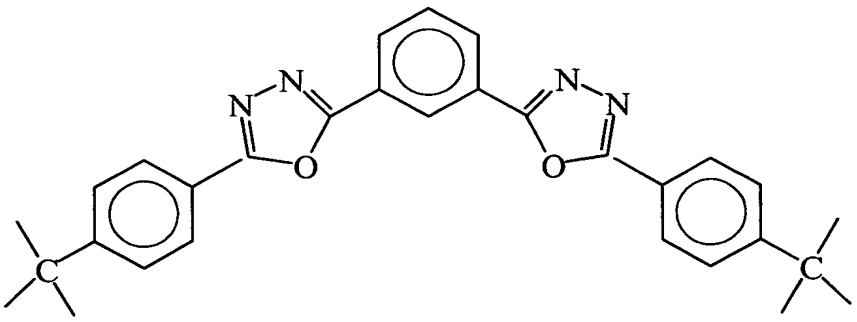
The claimed invention was made by, on behalf of, and/or in connection with one or more of the following parties to a joint university-corporation research agreement: Princeton University, The University of Southern California, and Universal Display Corporation. The agreement was in effect on and before the date the claimed invention was made, and the claimed invention was made as a result of activities undertaken within the scope of the agreement.

Please replace the paragraph beginning on page 1, line 5 with the following amended paragraph:

The present invention provides high efficiency phosphorescent organic light emitting devices. The present invention relates, for example, to an organic light emitting device (OLED) over a substrate, where the OLED has an anode, a hole transporting layer (HTL), a first electron transporting layer (ETL) that is doped with a phosphorescent material, a second electron transporting layer (ETL), and a cathode. Specific embodiments of the present invention include use of an aryl-substituted oxadiazole, an aryl-substituted triazole, an aryl-substituted phenanthroline, a benzoxazole or ~~benxthiazole~~ benzthiazole compound as the first ETL that is used as the host for the emissive phosphorescent dopant material. Another embodiment comprises a second ETL that functions as a hole blocking layer between the phosphorescent doped ETL and the cathode.

Please replace the first full paragraph on page 5 with the following amended paragraph:

More specifically, the phosphorescent-host material may be comprised of an aryl-substituted oxadiazole, such as ~~1,3-bis (N,N-t-butyl-phenyl)-1,3,4-oxadiazole~~ (OXD-7), as represented by the chemical formula:



Please replace the paragraph beginning on page 7, line 11 with the following amended paragraph:

As representative embodiments of the present invention, the host matrix may be comprised of an aryl-substituted oxadiazole, an aryl-substituted triazole, an aryl-substituted phenanthroline, a benzoxazole or a ~~benxthiazole~~ benzthiazole compound that has a lowest triplet state with an energy greater than the emissive dopant triplet energy.

Please replace the paragraph beginning on page 8, line 17 with the following amended paragraph:

While the preferred embodiments of the present invention have been described as having a second ETL, which is present between the phosphorescent-doped first ETL, and the cathode, the present invention is also directed to a phosphorescent-doped host ETL that is in direct contact with the cathode. In this ~~emodiment~~ embodiment of the invention, the host ETL is still required to have a triplet excited state that is of higher energy than the emissive triplet excited state of the phosphorescent dopant, such that there are no significant non-radiative losses via energy transfer through the triplet excited state of the host.

Please replace the paragraph beginning on page 12, line 11 with the following amended paragraph:

The present invention is directed, in representative embodiments of the present invention, to an OLED that includes a host ETL doped with a phosphorescent material, wherein the host layer is comprised of an aryl-substituted oxadiazole, an aryl-substituted triazole, an aryl-substituted phenanthroline, a benzoxazole or a ~~benxthiazole~~ benzthiazole

compound that has a triplet state energy level that is higher than the triplet state energy level of the emissive phosphorescent dopant. More specifically, the oxadiazole, triazole, phenanthroline, benzoxazole or ~~benxthiazole~~ benzthiazole compound has a triplet state energy level that is sufficiently higher than the emissive triplet state energy level of the phosphorescent dopant material that little, if any, of the dopant triplet excitation energy is transferred and non-radiatively lost to and through the host triplet state.

Please replace the paragraph beginning on page 22, line 6 with the following amended paragraph:

If the L ligand that is used in making the L_2MX (for example, M=Ir) complex has a high fluorescent quantum efficiency, it is possible to use the strong spin orbit coupling of the Ir metal to efficiently intersystem cross in and out of the triplet states of the ligands. Ir makes the L ligand an efficient phosphorescent center. Using this approach, it is possible to take substantially any fluorescent dye and make an efficient phosphorescent molecule from it (that is, L is fluorescent but L_2MX (M=Ir) is phosphorescent).

Please replace the paragraph beginning on page 27, line 15 with the following amended paragraph:

If an X ligand is used whose triplet levels fall lower in energy than the "L_2Ir" framework, emission from the X ligand can be observed. The phosphorescence spectra for heavy metal quinolates (e.g. IrQ_3 or PtQ_2) are centered at 650 nm. The complexes themselves emit with very low efficiency, < 0.01. Both the energy and efficiency of the L_2IrQ material is consistent "X" based emission. If the emission ~~form~~ from the X ligand or the "IrX" system were efficient this could have been a good red emitter. It is important to

note that while all of the examples ~~list~~ listed here are strong "L" emitters, this does not preclude a good phosphor from being formed from "X" based emission.